28

THE HOOVER COMPANY

NORTH CANTON, OHIO 44720, TEL. 216-499-9200

REPLY TO
EXECUTIVE OFFICES

January 19, 1977

Mr. George R. Alexander, Jr.
Regional Administrator
Environmental Protection Agency
230 South Dearborn Street
Chicago, Illinois 60604

Attention: Mr. John Chicca
Air Policy Branch

Ronald Hausmann, Esq.
Office of General Counsel
Environmental Protection Agency
Washington, D.C. 20460

RE: Comments by The Hoover Company to Promulgated Regulations of the Environmental Protection Agency Dated August 27, 1976

Gentlemen:

Pursuant to the orders of the United States Court of Appeals for the Sixth Circuit dated November 19, 1976, and January 11, 1977, in Consolidated Case 76-2090, we enclose herein written comments by The Hoover Company on the above promulgated regulations.

We would be pleased to discuss these comments with you at your convenience.

Yours very truly,

THE HOOVER COMPANY

M. J. Johns

M. J. Johns
Vice President - U. S. Manufacturing

cc: John P. Hehman, Clerk
United States Court of Appeals for Sixth Circuit

28.A.

WRITTEN COMMENT BY THE HOOVER COMPANY TO THE IMPLEMENTATION PLAN FOR THE CONTROL OF SULFUR DIOXIDE IN THE STATE OF OHIO PROMULGATED BY ENVIRONMENTAL PROTECTION AGENCY, AUGUST 27, 1976 (41 Federal Register 36324, et seq.)

A. Introduction

Written comment is hereby submitted to the United States Environmental Protection Agency (hereafter U.S.E.P.A.) pursuant to orders of the United States Court of Appeals for the Sixth Circuit dated November 19, 1976, and January 11, 1977, in consolidated Case Number 76-2090.

The following submission is made to U.S.E.P.A. to be received as comment to its record for purposes of promulgating final regulations establishing an Implementation Plan for the Control of Sulfur Dioxide in the State of Ohio.

B. General

The Hoover Company is a manufacturer of household appliances including Hoover floor care appliances. The Company is headquartered in North Canton, Stark County, Ohio, where it employs 3,610 persons. At its main plant in North Canton, Ohio, Hoover operates two industrial boilers connected to a single stack. One boiler is coal fired, while the other has natural gas firing capability.

When U.S.E.P.A. developed and invoked the Urban Real Time Air Quality Simulation Model (hereafter Urban R.A.M. Model) procedure for Stark County, Ohio, the decision was made to use full rated design load heat input for all boilers. Those sources which the Urban R.A.M. Model indicated did not contribute to any theoretical violation of

ambient air standards were not specifically restricted as to sulfur dioxide emissions and, with certain exceptions, were required to meet a 2.5 pound per million BTU actual heat input emission limitation in Stark County. The Hoover stack did not contribute to any of the theoretical violations developed in the Urban R.A.M. Model for Stark County. However, due to the fuels used in the Hoover boilers (natural gas and coal) the sulfur dioxide content per million BTU of fuel input was reduced by a weighted average from both boilers simultaneously operating at maximum design load. This penalized the Hoover operation by mandating that both boilers must be used simultaneously while using Ohio coal. The Urban R.A.M. Model indicated that both boilers could be operated simultaneously at maximum design load without violating the 2.5 pound per million BTU actual heat input emission limitation, and this was transposed into the regulations promulgated August 27, 1976, without regard to the fact that this operational condition is nonexistent since the Hoover load is less than one-half of the maximum input of both boilers.

At the same time in comparable isolated locations, boilers which also did not contribute to theoretical violations proposed by the Urban R.A.M. Model, but which had only coal fire capability were excepted from the 2.5 pounds per million BTU emission limit by U.S.E.P.A. and were permitted emission limitations of 4.4 pounds sulfur dioxide per million BTU actual heat input for the Republic Steel facility and 5.2 pounds sulfur dioxide per million BTU actual heat input for the Massillon State Hospital facility. 40 C.F.R. §52.1881 (b) (58) (iii) and (iv).

C. Specific Comments

It is submitted that even assuming the correctness of the Urban R.A.M. Model assumptions and input data, independent operation

of the Hoover coal fired boiler with fuel of 5.62 pounds sulfur dioxide per million BTU actual heat input without use of the gas fire boiler will not result in a theoretical violation of federal ambient air quality standards. Hoover, therefore, requests that the emission limitation for the Hoover source as finally promulgated be 5.62 pounds sulfur dioxide per million BTU actual heat input.

In order to demonstrate that no theoretical violation under the Urban R.A.M. Model will occur if an emission limitation of 5.62 pounds sulfur dioxide per million BTU actual heat input is established for the Hoover source, the P.T.M.T.P. program was used to predict the maximum daily sulfur dioxide concentrations to which the Hoover source contributed. The following boiler stack data was used in the computer input and are corrections of information which was originally submitted to Ohio E.P.A.

Stack Gas Temperature at Full Load	510° F
Stack Gas Velocity at Full Load	843 feet per minute

For the program, 140 receptors were established of which 60 downwind receptors were used with each daily analyzation of a 24-hour period. The first 14 receptors were located within a radius of 1.45 KM. from the Hoover source and have a grid distance of .4 KM. from each other. The second group of 16 receptors extend out to a radius of 30.2 KM. and have a 1.0 KM. grid pattern. The third group of 32 receptors extend out to a radius of 6.8 KM. and have a 1.5 grid pattern. The last eight receptors are located on an approximate 7.5 KM. radius. The receptor groups were noted as a, b, c, and d respectively as the distance from the Hoover source increased. To avoid a multitude of read outs for each receptor, the program readout was altered to permit only the maximum receptor concentration in each group of receptors.

The program was run for 366 days of 1964 climatic conditions,

with only the Hoover coal fuel fire boiler source (hereafter source No. 1). This run was designated "366 day run with Hoover source only". After the run was completed,the 20 days in which the sulfur dioxide receptor concentration readouts were the largest, were selected and another run of these twenty days was made. This run was designated "twenty days maximum concentration with major sources". An additional run was made and designated "twenty days maximum concentration with major sources and source No. 1 load correction". The first two program runs were made with source No. 1 using the Hoover coal fired boiler at maximum design load. The twenty-five major sources used in the last two runs comprise 92.5 percent of the total Stark County rated load and the source information was taken from the U.S.E.P.A. R.A.M. Model description. The 25 source limitation was due to the P.T.M.T.P. program capability. The load correction in the final run was made to provide actual load conditions of source No. 1.

From the computer readout the _____ day attained the maximum daily readout for the entire year. This concentration value was _____ug/m^3 or _____percent of the 24 hour limit.

The computer readout for the _____ day was rerun to more closely determine the sulfur dioxide maximum concentration based on actual load conditions. The maximum sulfur dioxide concentration was _____ug/m^3 for _____percent of the 24 hour limit. The average ambient temperature was _____°F and the input heat was _____percent of the rated input for both boilers as in the Urban R.A.M. Model. This rerun is a valid comparison of actual load conditions and will remain constant in the future. The heating load-process load ratio is to be the same on a year to year basis. It is clear that the model predictions show no theoretical violation of the federal ambient air quality standards when the Hoover source

uses fuel of 5.62 pounds sulfur dioxide per million BTU actual heat input even when operated at maximum design load.

Any percentage increase or error due to not adjusting the entire county source analysis by this specific variation and operation of the Hoover source (i.e. coal fired boiler only) in the Urban R.A.M. Model program for Stark County is minimal. This is so because of the isolated location of this source which is more than four and one-half miles from any other source considered in the Urban R.A.M. Model for Stark County, Ohio.

Failure of U.S.E.P.A. to promulgate final regulations adopting a 5.62 pound sulfur dioxide per million BTU actual heat input emission limit for the Hoover source will seriously disrupt the vital operation of Hoover's North Canton main plant facility without appreciable improvement in air quality. This is so for the following reasons:

1. As set forth in the regulations promulgated August 27, 1976, the Urban R.A.M. Model applicable to Stark County, Ohio severly overpredicts ambient concentrations of sulfur dioxide. The full load condition used in the Urban R.A.M. Model program in development of the August 27, 1976 regulations overstated the load condition by 250 percent of the actual Hoover load that occurred when the ground level sulfur dioxide concentration was at a maximum. The Urban R.A.M. Model predictions as used in the August 27, 1976 regulations are based on the simultaneous occurrence of the worst meteorological conditions at the same time that Hoover is operating both of its boilers at maximum design load and that at the same time all other point sources of sulfur dioxide emissions in Stark County are also operating at maximum design load. In the history of the Company, neither of the Hoover boilers has ever been operated at maximum design load for the reason

that, unlike utility boiler installations, industrial boilers such as that operated by Hoover are not designed for such operation. Additionally Hoover's load for such boilers is and will be less than the maximum design load of either boiler so that if either boiler could be operated at such maximum design load it could only be done by blowing excess steam out of the Hoover stack. While the Urban R.A.M. Model based its predictions on both Hoover boilers operating at maximum design load, either of the two Hoover boilers has the capability to maintain maximum load conditions without operating at maximum design load. This is not uncommon for industrial companies such as Hoover, many of which have duplicate boiler capacity to meet emergency as well as routine back-up requirements. Furthermore, the probability of daily maximum boiler load conditions occurring simultaneously with the worst predictable climatic conditions is remote if not impossible. Since most boilers have sum load portion directly related to heating and since heating load requirements are directly related to ambient air temperatures, the maximum loads appear on winter days when cold frontal systems are moving through the North Canton, Ohio, area. These winter cold fronts have not been recognizable as providing unusual sulfur dioxide concentrations at ground levels. This is quite apparent in the Urban R.A.M. Model for Stark County where only one critical day of the six critical days established by the model had an average temperature below 57°F and none took place between December 1 and May 1, a five month period.

Nowhere in the U.S.E.P.A. Technical Support Document is there evidence that the condition relied upon by the model (e.g. all point sources simultaneously operating at maximum design load during the worst possible predicted meteorological condition) has ever taken place. Moreover, the temperature conditions on the six critical days

predicted by the Urban R.A.M. Model indicate that the simultaneous conditions assumed by the model will in fact never occur in Stark County, Ohio.

2. The Hoover stack is physically located in such a position that Flue Gas Desulfurization equipment, even if technologically reliable, cannot be located at such source without demolition of the plant building itself. A control strategy which depends upon Flue Gas Desulfurization for the Hoover source is unwarranted.

3. The Company has been unable to secure a reliable source of low sulfur fuels. Natural gas curtailments have been invoked during the critical heating seasons for the past three years and the Company is advised by its natural gas supplier that future curtailments of natural gas for industrial boiler purposes will be exercised. No adequate source of low sulfur coals for use in the Hoover coal fire boiler has been identified although the Company has been investigating the same and has been advised by its coal supplier that if an adequate supply of low sulfur Western coals could be secured, the cost of such coals would be $55.00 per ton. Use of such coals would impose a severe economic impact on the Company without commensurate benefit to the community inasmuch as Federal Ambient Air Standards for sulfur dioxide necessary to protect the public health are being achieved in Stark County, Ohio. A control strategy which depends on low sulfur Western coals or natural gas for the Hoover source is unwarranted.

4. The ambient air of Stark County, Ohio, meets the Federal and Ohio air quality standards for sulfur dioxide. U.S.E.P.A. Technical Support Documents Volume 1 at page IV-53 states,

> "The existing air quality monitoring data indicates the attainment of the [ambient air quality] standards."

Appendix G to such technical support document indicates that the

highest measured 24-hour concentration of sulfur dioxide in Stark County in 1973 was 126 micrograms per cubic meter (based on observation at five monitoring sites), while the highest 24-hour observed concentration in 1974 was 170 micrograms per cubic meter (based on eight monitoring sites). These highest 24-hour maximums are well beneath the Federal 24-hour ambient air quality standard of 365 micrograms per cubic meter. The highest annual arithmetic means measured in Stark County also fall well below the Federal standard for annual arithmetic mean concentrations, Stark County being 39.3 micrograms per cubic meter in 1973 and 44.5 micrograms per cubic meter in 1974, whereas the Federal standard for annual arithmetic mean is 80 micrograms per cubic meter. Air quality data gathered by the Canton Air Pollution Control Borad (Contract agent for Ohio E.P.A. in Stark County, Ohio) for the years 1975 and 1976 again show maximum observed concentrations of sulfur dioxide to be well within those permitted by Federal standards.

Inasmuch as U.S.E.P.A.'s authority to restrict emissions is limited to those restrictions necessary for the sole purpose of attaining and maintaining applicable ambient air quality standards; and there is a demonstrated lack of violation of such air quality standards in Stark County, Ohio, with actual concentrations well below those permitted by the Federal standards; and there is a demonstrated capability of the Hoover coal fired boiler source to operate independent of its gas fired boiler with fuel of 5.62 pounds sulfur dioxide per million BTU heat input without violating Federal sulfur dioxide ambient air quality standards even under the worst predictable conditions as programmed in the Urban R.A.M. Model; and there is a lack of viable alternative control strategies, it is submitted that U.S.E.P.A. must reconsider the implementation plan for the control of sulfur dioxide in the State of Ohio promulgated

August 27, 1976, as the same relates to the Hoover source located at North Canton, Stark County, Ohio, and the Hoover Company respectfully requests that the final regulation promulgated by U.S.E.P.A. provide an exception to the general emission limitation for the Hoover source and that such source emission limitation be 5.62 pounds sulfur dioxide per million BTU actual heat input.

Respectfully submitted,

THE HOOVER COMPANY

By: Marshall J. Johns
Vice President U.S. Manufacturing

NOTICE

Pursuant to Agreement with Paul M. Kaplow, Esq., counsel to Respondent, Environmental Protection Agency, Case No. 76-2281, United States Court of Appeals for the Sixth Circuit and to a Motion to said Court under Rule 26 (b) Federal Rules of Appellate procedure, page 4 of the within comment will be substituted by a new page 4 which shall disclose complete computer derived information called for in said Comment. Such substitution will be made on or before January 27, 1977, and is to be considered by the Environmental Protection Agency as a part of written comments received by petitioner in this case.